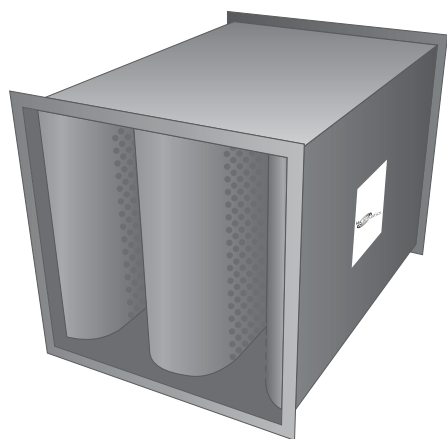


Ultra-pals™ Packless Silencers Type: XL

With Forward and Reverse Flow Ratings



The complete absence of fill combined with ease of cleaning and draining, makes packless silencers well suited for chemical plants, refineries, nuclear power plants and facilities handling petrol, grease, solvents or other hazardous materials.

Supplied as Standard:

- Aerodynamic inlet and discharge to splitter elements to reduce pressure drop and conserve energy

Designating Silencers: Example

Model: 6XL-600x600

| Length | Type | Width | Height |
|--------|------|-------|--------|
| 1800mm | XL | 600mm | 600mm |

XL Silencers must be supplied in standard modular widths that are multiples of 300mm.

- No Fibreglass
- No Foam
- No Mineral Wool
- No Fill of Any Kind

Self-Noise Power Levels dB re: 10⁻¹² Watts (for a 0.37m² face area silencer)

| IAC XL Model | Octave Band | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------------------|-----------------------------|-----------------------------|-----|-----|-----|----|----|----|----|
| | Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
| | Silencer Face Velocity, m/s | Self-Noise Power Levels, dB | | | | | | | |
| 3XL | -7.5 | 54 | 52 | 56 | 58 | 59 | 64 | 65 | 58 |
| | -5 | 42 | 44 | 49 | 51 | 55 | 59 | 55 | 45 |
| | +5 | 46 | 42 | 44 | 46 | 52 | 57 | 55 | 52 |
| | +7.5 | 54 | 54 | 57 | 54 | 54 | 62 | 65 | 59 |
| 6XL & 9XL All Sizes (mm) | -10 | 64 | 61 | 58 | 59 | 60 | 64 | 67 | 64 |
| | -5 | 56 | 52 | 52 | 52 | 55 | 61 | 60 | 50 |
| | +5 | 58 | 54 | 49 | 46 | 52 | 60 | 60 | 50 |
| | +10 | 66 | 67 | 65 | 61 | 58 | 63 | 69 | 67 |

Face Area Adjustment Factors (add or subtract from Lw values above)

| | | | | | | | | |
|---|------|------|------|------|------|------|------|-------|
| Ultra-Pals™ Face Area, m ² * | 0.09 | 0.19 | 0.37 | 0.74 | 1.50 | 3.00 | 6.00 | 12.00 |
| Lw Adjustment Factor, dB | -6 | -3 | 0 | +3 | +6 | +9 | +12 | +15 |

* For intermediate face areas, interpolate to the nearest whole number

Aerodynamic Performance

| IAC Model | Length (mm) | Static Pressure Drop N/m ² | | | | | | | |
|-----------------------------|-------------|---------------------------------------|------|------|------|------|------|------|------|
| | | 7 | 10 | 15 | 20 | 25 | 30 | 37 | 42 |
| XL | 900 | 7 | 10 | 15 | 20 | 25 | 30 | 37 | 42 |
| | 1800 | 10 | 12 | 17 | 25 | 30 | 37 | 45 | 55 |
| | 2700 | 10 | 15 | 22 | 27 | 35 | 45 | 55 | 65 |
| Silencer Face Velocity, m/s | | 1.27 | 1.52 | 1.78 | 2.03 | 2.29 | 2.54 | 2.79 | 3.05 |

Dynamic Insertion Loss (DIL) Ratings: Forward (+) / Reverse (-) Flow

| IAC XL Model (length in mm) | Octave Band | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------------------------|-----------------------------|----------------------------|-----|-----|-----|----|----|----|----|
| | Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
| | Silencer Face Velocity, m/s | Dynamic Insertion Loss, dB | | | | | | | |
| 3XL (900) | -7.5 | 9 | 12 | 18 | 21 | 13 | 11 | 9 | 7 |
| | -5 | 8 | 10 | 16 | 20 | 12 | 11 | 9 | 7 |
| | 0 | 8 | 7 | 15 | 17 | 11 | 11 | 9 | 8 |
| | +5 | 7 | 8 | 17 | 21 | 13 | 11 | 9 | 8 |
| | +7.5 | 7 | 9 | 18 | 21 | 14 | 13 | 9 | 9 |
| 6XL (1800) | -7.5 | 12 | 20 | 25 | 30 | 19 | 16 | 13 | 10 |
| | -5 | 12 | 18 | 23 | 27 | 18 | 15 | 13 | 10 |
| | 0 | 8 | 11 | 19 | 23 | 16 | 14 | 13 | 11 |
| | +5 | 11 | 14 | 23 | 28 | 19 | 15 | 13 | 12 |
| | +7.5 | 10 | 15 | 24 | 30 | 21 | 17 | 14 | 12 |
| 9XL (2700) | -7.5 | 19 | 28 | 32 | 38 | 27 | 21 | 16 | 11 |
| | -5 | 16 | 25 | 29 | 34 | 24 | 19 | 16 | 12 |
| | 0 | 11 | 15 | 22 | 27 | 20 | 18 | 16 | 15 |
| | +5 | 13 | 20 | 29 | 33 | 25 | 20 | 16 | 16 |
| | +7.5 | 13 | 21 | 29 | 35 | 26 | 23 | 18 | 15 |

Note

- The tabulated air flow in m³/s is based upon tests in the IAC Acoustics R&D Laboratory, in accordance with applicable sections of internationally recognised airflow test codes. These codes require specific lengths of straight duct both upstream and downstream of the test specimen. Non-compliance with these codes can add from 0.5 to several velocity heads depending on specific conditions. The downstream measurements are made far enough downstream to include static regain. Therefore, if silencers are installed immediately before or after elbows, transitions or at the intake or discharge of the system, sufficient allowance to compensate for these factors must be included when calculating the operating static pressure loss through the silencer. See pages 10 and 11 for further details.
- Face Velocity is the airflow (m³/s) divided by the Face Area (m²)
- Pressure drop for any face velocity can be calculated from the equation: $PD = (\text{Actual FV} / \text{catalogue FV})^2 \times (\text{Catalogue PD})$

Ultra-Pak™ Packless XL Silencers